

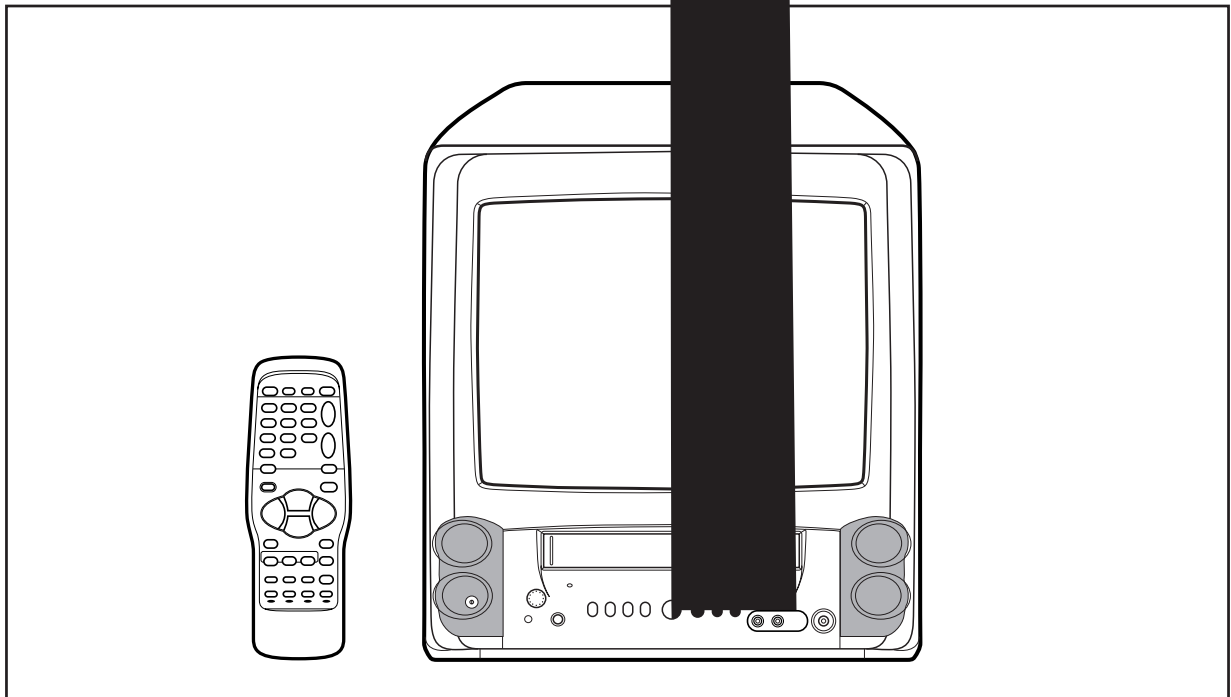
ORION

Operating Instructions

Combination Color TV and Video Cassette Recorder

TELETEXT

14VROT
20VROT



Before operating the unit, please read this manual thoroughly.

IMPORTANT

Unauthorized recording of copyright television programmes, films, video tapes and other materials may infringe on the rights of copyright owners and be contrary to copyright laws.

WARNING

To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

MAINS SUPPLY

This unit is designed to operate from AC 240V 50Hz Power supply.

HQ

This TV/VCR is equipped with HQ (High Quality) recording capability. A built-in detail enhancer is used to boost the recorded signal for cleaner, sharper images and maximum picture playback.

FEATURES

- TELETEXT
- Auto Channel Memory
- 4 Video Head
- 1 Month, 8 Programmes Timer
- One-Touch Timer Recording (OTR)
- 30 Minutes Back Up
- Real Time Tape Counter
- NTSC Playback (PAL 60Hz)
- On-Screen Programming
- TV Monitor
- Slow Motion
- Front A/V IN jack
- Video Index Search System
- Digital Auto Tracking
- Auto Head Cleaning
- Programmable ON/OFF Timer
- Auto Power On/Auto Play
- Auto Rewind/Auto Eject
- Dual Picture Search
- 2 Speed (SP/LP) Record/Playback
- On Screen 5 Language Display
- Programmable TV Sleep Timer
- Auto Repeat Play
- Frame By Frame Advance

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PRECAUTIONS

MOISTURE CONDENSATION

If the unit is suddenly moved from a cold place to a warm place, moisture may form inside the unit. In this case, do not operate it for two or three hours.

■ WHAT IS MOISTURE CONDENSATION?

When cold water is poured into a glass, for, example, water vapor in the air will condense on the surface of the glass. This is called moisture condensation.

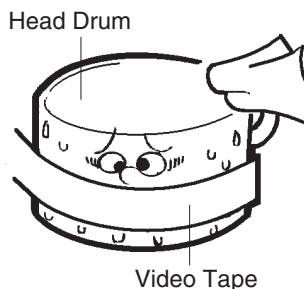
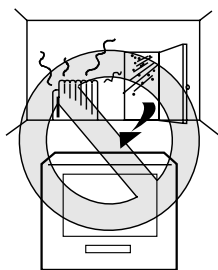
■ MOISTURE WILL CONDENSE ON THE UNIT IN THE FOLLOWING CASES;

- When you move this TV/VCR from a cold to a warm place.
- After heating a cold room or under extremely humid conditions.

■ IF YOU EXPERIENCE THE ABOVE CONDITIONS;

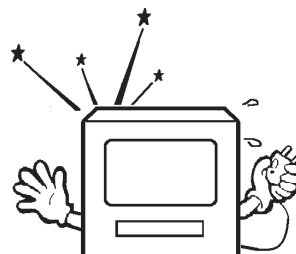
Plug the AC cord to AC outlet, set the Main Power Switch to ON and leave at the room temperature until moisture condensation disappears.

Depending on the surrounding conditions, this may take two or three hours.

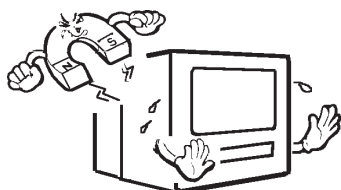


Under certain conditions, such as low humidity or walking across wool carpet, you may experience a static discharge when touching the TV/VCR. If this happens and it fails to function, follow the procedure below.

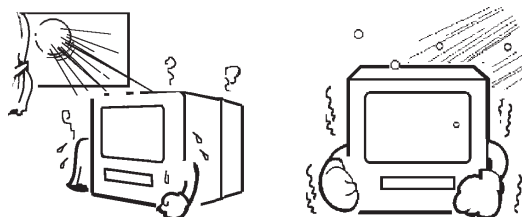
- 1) Un-plug the TV/VCR from the AC outlet.
- 2) This may take two or three hours.
- 3) Re-plug the unit again.



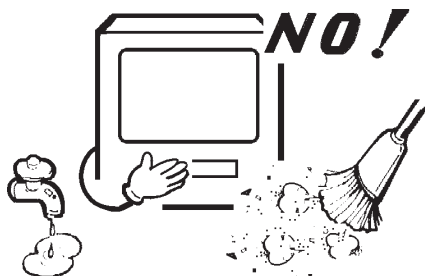
Do not place the unit on or near appliances which may cause electromagnetic interference e.g. TV or hi-fi speakers, etc. Doing so may affect operation of unit causing erratic playing or recording, picture or sound distortion, or noise.



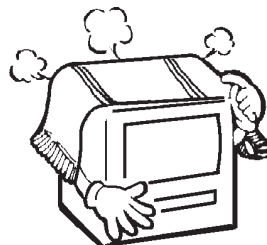
Avoid extreme heat and cold.



Avoid extreme moisture and dust.



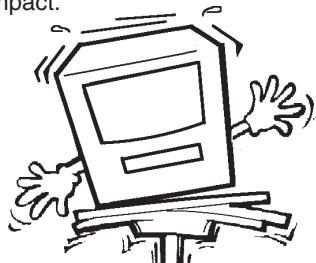
The ventilation holes prevent overheating. Do not block or cover these holes. Especially avoid covering the holes with soft materials such as cloth or paper.



Do not insert fingers or any other objects into the cassette loading slot. Do not spray cleaner or wax directly on the unit or use forced air to remove dust.



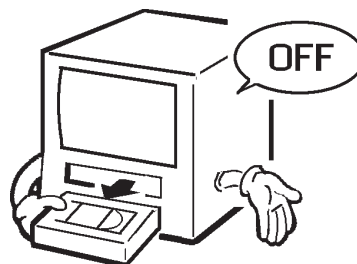
Place the unit on a flat, stable, level surface, and never subject it to violent shaking or any other shock or impact.



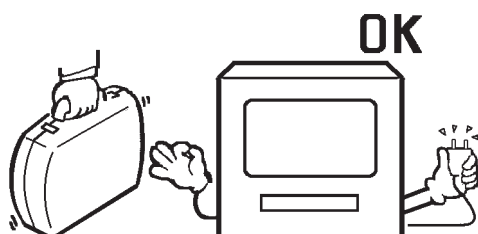
Keep the unit away from flower vases, sink etc. Liquids spilled into the unit can cause serious damages. Switch OFF the Power Supply to the unit and consult a qualified service personnel before attempting to use the unit again.



When you finish operating the unit, always unload the cassette and turn off the power.



When you leave your home for a long period of time, unplug the AC power cord.

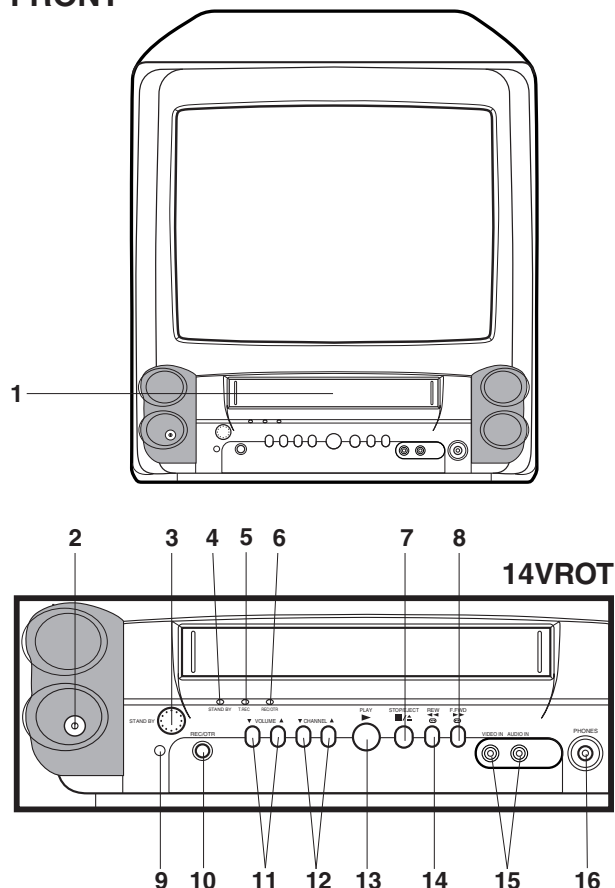


To protect the unit from lightning strike during a thunder storm, unplug the AC power cord from the wall outlet and disconnect the antenna.

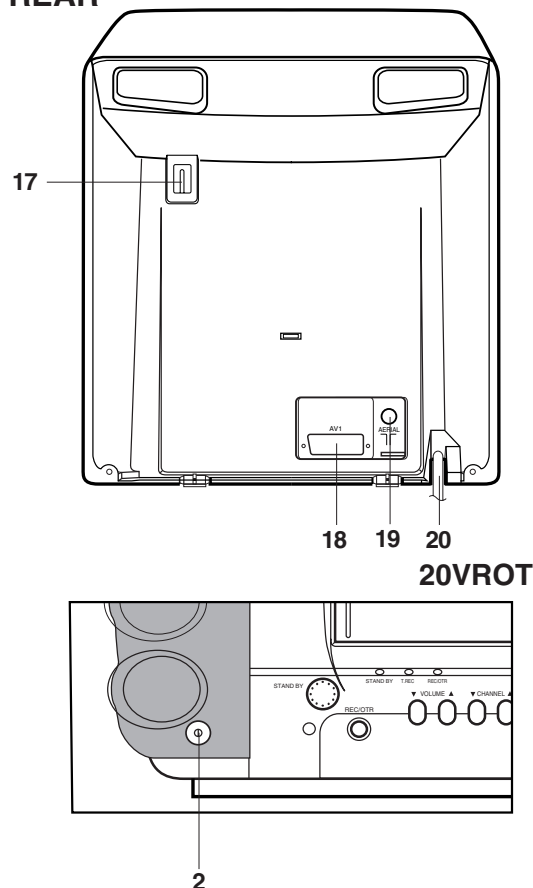


LOCATION OF CONTROLS

FRONT



REAR



DESCRIPTION OF CONTROLS

FRONT:

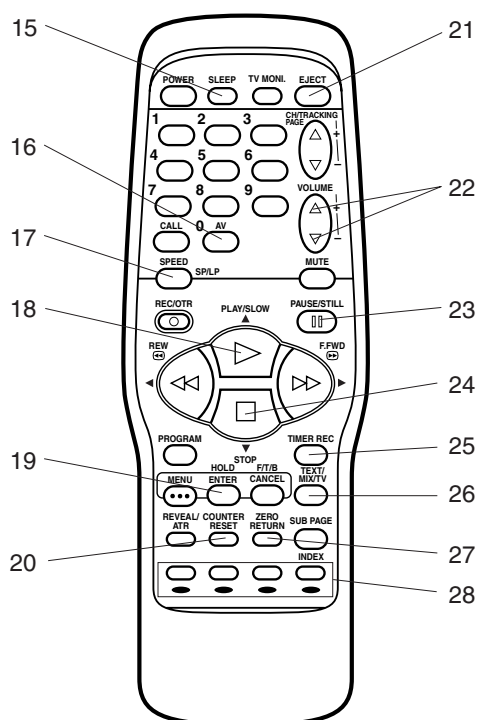
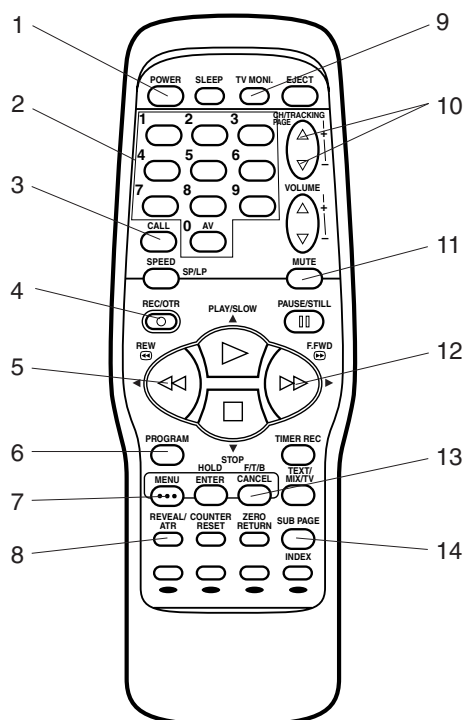
1. **Cassette Loading Slot** - To insert or remove a video tape.
2. **Main Power (Ⓢ) switch** - Turn the TV/VCR power on or off completely.
3. **STAND BY Button** - Press to turn the TV/VCR on or off.
4. **STAND BY Indicator** - Lights when the Main Power switch is turned on.
5. **T. REC Indicator** - This lights when the TIMER REC button is pressed.
6. **REC/OTR Indicator** - Lights when the TV/VCR is recording.
7. **STOP/EJECT Button** - Press once to stop the tape in any mode. Press again to eject the tape.
8. **F.FWD (Fast Forward) Button** - In the Stop mode, this button rapidly winds the tape forward. In the Play mode, this button activates forward search.
9. **Remote Sensor** - Signals from the Remote Control are received here.
10. **REC/OTR Button** - Press once to start normal recording. Additional presses activate One-Touch Timer Recording.
11. **VOLUME ▲ / ▼ Buttons** - Press to raise or lower the volume of the sound.
12. **CHANNEL ▲ / ▼ Buttons** - Press to select a channel for viewing or recording.

13. **PLAY Button** - Press to play a prerecorded tape.
14. **REW (Rewind) Button** - In the Stop mode, this button rapidly winds the tape backwards. In the Play mode, this button activates reverse search.
15. **VIDEO/AUDIO IN Jacks** - Audio and video signal cables from an external source can be connected here.
16. **PHONES Socket** - Plug monaural headphones or an earphone with a 3.5 mm miniplug into this socket for private listening.

REAR:

17. **Indoor Antenna Holder** - The indoor antenna inserted here.
18. **21 Pin SCART socket (AV1)** - Scart lead from an external source can be connected here.
19. **VHF/UHF Antenna Socket** - Connect the 75 ohm coaxial cable from the antenna or Cable TV service to this socket.
20. **AC Power Cord** - Connect to a 240V, 50Hz AC outlet.

REMOTE CONTROL



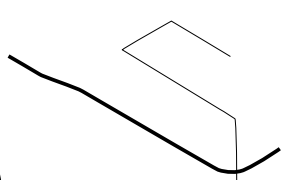
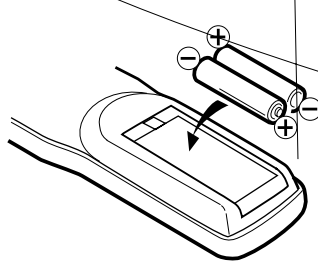
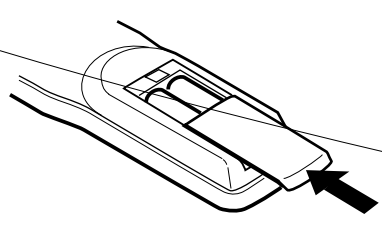
DESCRIPTION OF CONTROLS

1. **POWER Button** - Press to turn the TV/VCR on. Press again to turn the TV/VCR off.
2. **Direct Channel Selection Buttons (0-9)** - Allows direct access to any channel.
3. **CALL Button** - Displays the present time/day of the week, channel, counter, and tape speed (and VCR mode if VCR is operating) on the TV screen.
4. **REC/OTR Button** - Press once to start normal recording. Additional presses activate One-Touch Timer Recording.
5. **REW (Rewind) / ◀ Button** - In the Stop mode, this button rapidly winds the tape backwards. In the Play mode, this button activates reverse search. Used to set or adjust in the menu mode.
6. **PROGRAM Button** - Press to confirm the programmed timer recording and ON/OFF timer.
7. **MENU Button** - Press to display the On-Screen menu function.
8. **REVEAL/ATR (Auto Tracking) Button** - Automatic adjustment of tracking to minimize picture noise during playback or used to utilize the Videotext operation.
9. **TV MONITOR Button** - Used to temporarily view a TV channel selected on the TV/VCR while in the playback mode.
10. **CH/TRACKING PAGE + / - Buttons** - Press the + button to change a higher numbered channel set into memory. Press the - button to change to a lower numbered channel set into memory. During playback, they are used to adjust tracking manually.
11. **MUTE Button** - Press to turn off the sound. Press again to turn the sound back on.
12. **F.FWD (Fast Forward) / ▶ Button** - In the Stop mode, this button rapidly winds the tape forward. In the Play mode, this button activates forward search. Used to set or adjust in the menu mode.
13. **F.T/B CANCEL Button** - Used to clear the selected program and to skip a channel or used to utilize the Videotext operation.
14. **SUB PAGE/INDEX Button** - Used to search for the INDEX mark or used to utilize the Videotext operation.
15. **SLEEP Button** - Sets the TV to turn off automatically after up to 120 minutes.
16. **AV Button** - Select input signal source when recording from an external unit.
17. **SPEED Button** - Sets the tape speed for recording.
18. **PLAY/SLOW / ▲ Button** - Press to play a prerecorded tape, press again to switch to slow motion. Used to set or adjust in the menu mode.
19. **HOLD/ENTER Button** - Use to enter information in the menu mode or used to utilize the Videotext operation.
20. **COUNTER RESET Button** - Used to reset the counter to 00:00:00.
21. **EJECT Button** - Press to eject the tape.
22. **VOLUME + / - Buttons** - Press the + button to increase, or the - button to decrease the volume level.
23. **PAUSE/STILL Button** - During recording, this button temporarily stops the tape. During playback, it stops the tape and displays a still image on the TV screen.
24. **STOP / ▼ Button** - Press once to stop the tape. Used to set or adjust in the menu mode.
25. **TIMER REC Button** - Used to set the TV/VCR to start recording at a preset time.
26. **TEXT/MIX/TV Button** - Press the TEXT/MIX/TV button to select Videotext operation.
27. **ZERO RETURN Button** - Used to stop the tape when the counter reaches 00:00:00.
28. **Four Colored Videotext Buttons** - Used to display the Videotext associated pages easily.

REMOTE CONTROL

(CONTINUED)

BATTERY INSTALLATION

1 Open the battery compartment cover.	2 Install two "AAA/R03/UM-4" (penlight size) batteries.	3 Replace the cover.
		

BATTERY CAUTIONS

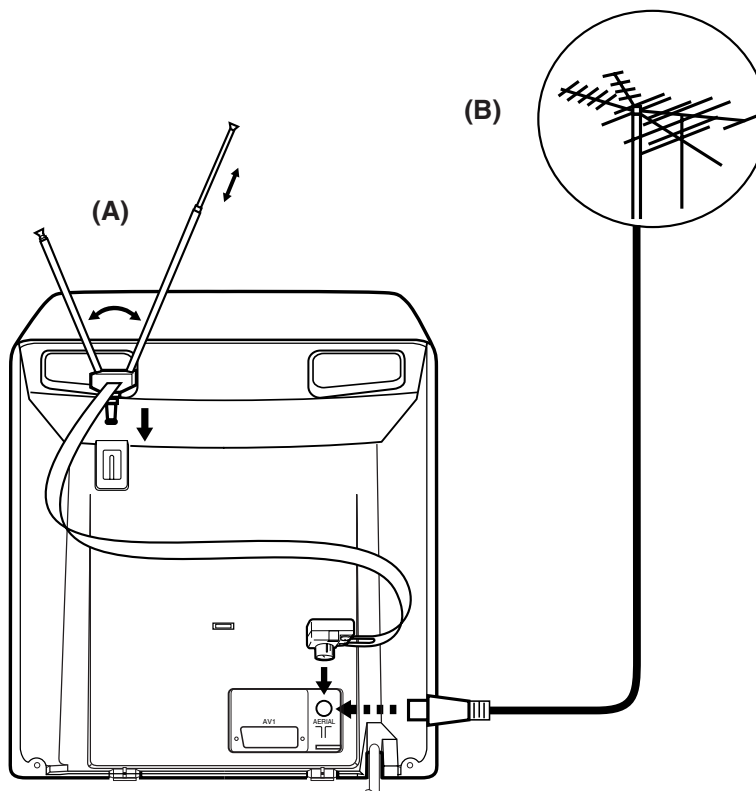
- Use two "AAA/R03/UM-4" size penlight batteries for the remote control handset.
- The batteries may last approximately one year depending on how much the remote control is used. For best performance the batteries be replaced on a yearly basis, or when remote operation becomes erratic.
- Do not mix old and new batteries.
- Weak batteries can leak and severely damage the remote control transmitter. Always remove batteries as soon as they become weak.

REMOTE CONTROL OPERATION

NOTE: When direct sunlight, an incandescent lamp, fluorescent lamp or any other strong light shines on the remote sensor, the remote control operation may be unstable.

ANTENNA CONNECTIONS

Connect an indoor or outdoor antenna to the antenna socket at the rear panel as shown below.
For all antenna circuit problems, please consult your local dealer.



(A) INDOOR ANTENNA

If an external antenna is not available, the telescopic antenna (supplied) may be used in areas of good TV reception. Adjust position for best reception.

(B) EXTERNAL ANTENNA

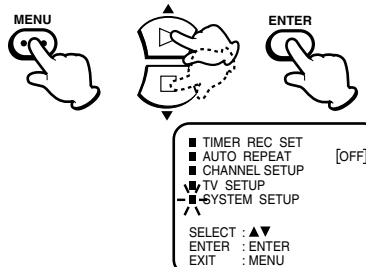
The type of antenna required depends on the position of your home, its distance from the transmitter and local interference. If you do not have an antenna and you are uncertain of what to buy, you should seek the advice of a local antenna contractor.

ON-SCREEN LANGUAGE SELECTION

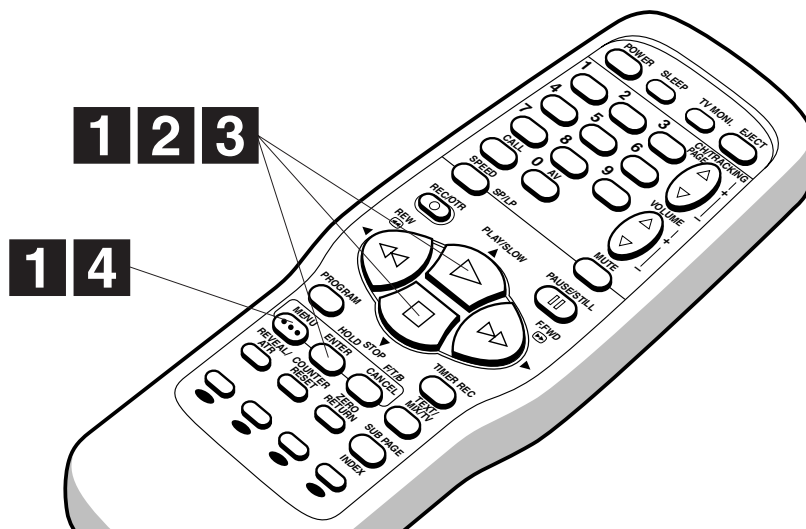
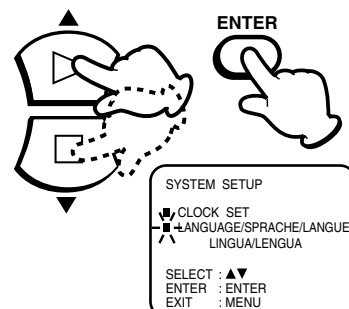
The on-screen menu can display five languages, English, German, French, Italian or Spanish.

- Make sure that the MAIN POWER (ⓘ) switch is pushed in (ON). (The STAND BY indicator lights up.)
- Press the POWER button or STAND BY button to turn on the TV/VCR. (The STAND BY indicator goes off.)

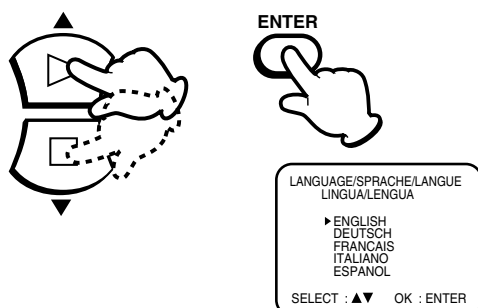
1 Press the MENU button. Press the ▲ or ▼ button to select the SYSTEM SETUP mode. Then press the ENTER button.



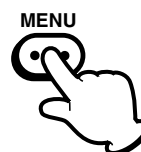
2 Press the ▲ or ▼ button to select the LANGUAGE mode. Then press the ENTER button.



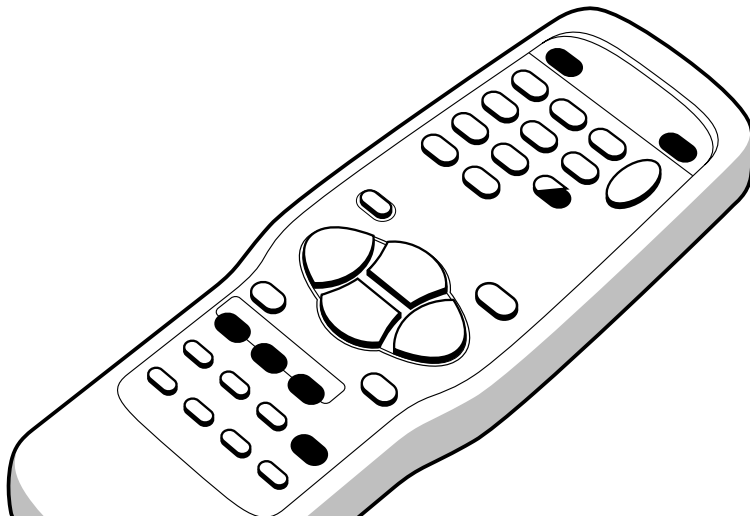
3 Press the ▲ or ▼ button to select the desired language. Then press the ENTER button.



4 Press the MENU button to return to normal TV screen.



NOTE: When you plug the AC Power cord into the AC outlet for the first time the menu screen at Step 1 and Step 2 will be skipped and move to the language screen at Step 3. This is not a fault, please select the language at first before operating this unit.



MUTESPEED

9POWERSL

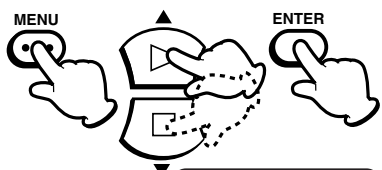
TUNING THE TV CHANNELS

(CONTINUED)

TO CHANGE THE TV STATIONS TO ANOTHER CHANNEL POSITION

EXAMPLE : Changing the TV Station from CH 4 to CH6 position.


1 Press the MENU button. Press ▲ / ▼ button to select the CHANNEL SETUP mode, then press the ENTER button.



■ TIMER REC SET
■ AUTO REPEAT [OFF]
■ CHANNEL SETUP
■ TV SETUP
■ SYSTEM SETUP

SELECT : ▲▼
ENTER : ENTER
EXIT : MENU

2 Press ▲ / ▼ button to select the CH ALLOCATION mode, then press the ENTER button.

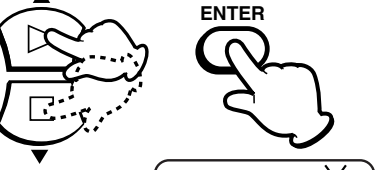


CHANNEL SETUP

■ CH TUNING
■ AUTO TUNING
■ CH ALLOCATION

SELECT : ▲▼
ENTER : ENTER
EXIT : MENU

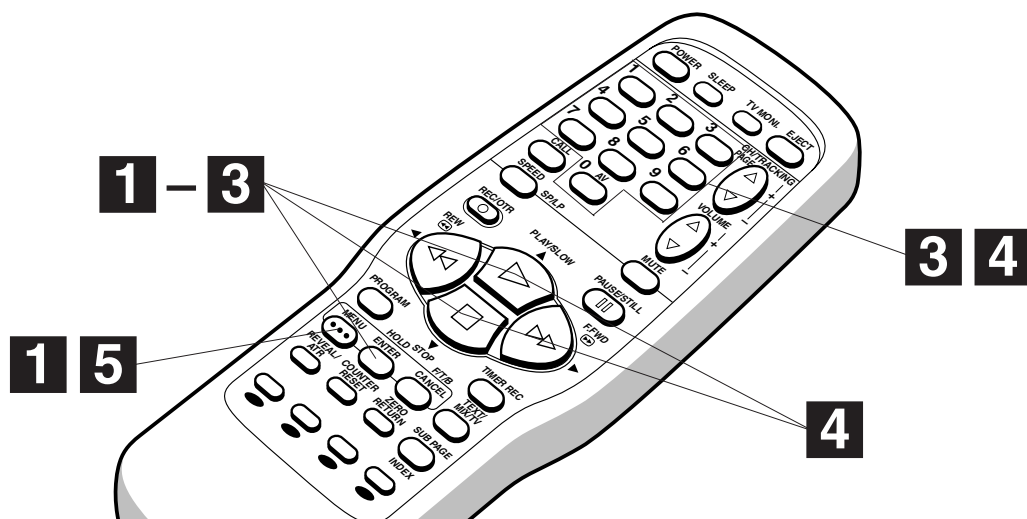
3 Press ▲ / ▼ or number button to select the TV station to be moved. Then press the ENTER button.



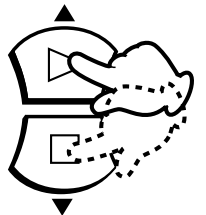
CH 4

CH ALLOCATION CH 1

SET : ▲▼/0-9
OK : ENTER
EXIT : MENU



4 Press ▲ / ▼ or the number button to select the new CH number you want the station to be.




CH 4

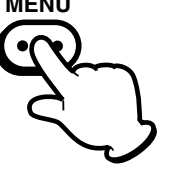
CH ALLOCATION CH 6

SET : ▲▼/0-9
OK : ENTER
EXIT : MENU

5 Press the ENTER button.



Press the MENU button to return to the normal screen.



CH 6

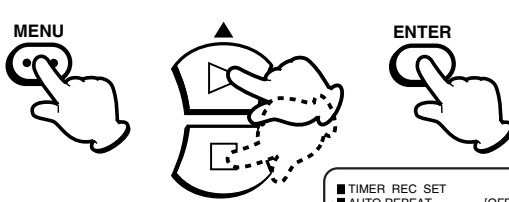
CH ALLOCATION CH 4

SET : ▲▼/0-9
OK : ENTER
EXIT : MENU

In certain areas of the countries which have poor reception the Automatic Tuning System may not tune your TV/VCR to the strongest broadcast signal. If you are not satisfied with the automatic tuning you may manually tune your TV/VCR.

MANUAL TUNING

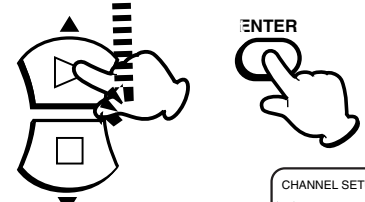
1 Press the MENU button.
Press the ▲ or ▼ button to select the CHANNEL SETUP mode, then press the ENTER button.



■ TIMER REC SET
 ▲ AUTO REPEAT [OFF]
 ■ CHANNEL SETUP
 ▲ TV SETUP
 ■ SYSTEM SETUP

SELECT : ▲▼
 ENTER : ENTER
 EXIT : MENU

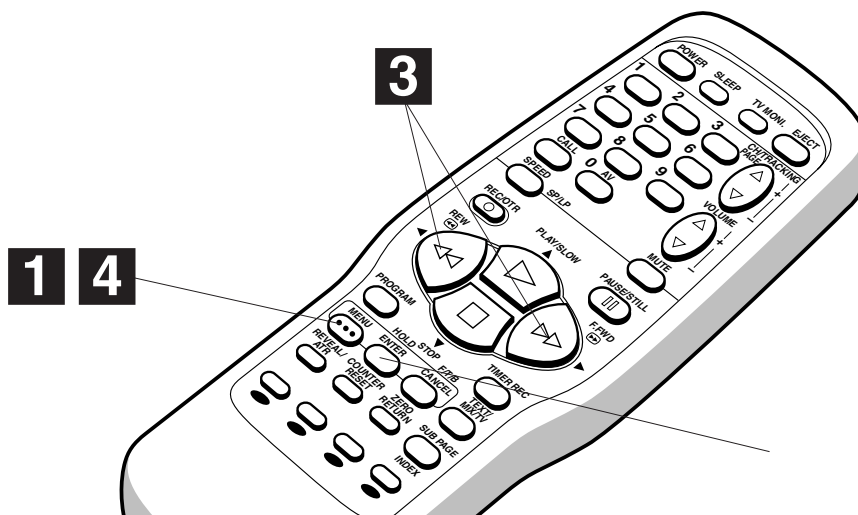
2 Press the ▲ or ▼ button to select the CH TUNING mode, then press the ENTER button.



CHANNEL SETUP

■ CH TUNING
 ▲ AUTO TUNING
 ■ CH ALLOCATION

SELECT : ▲▼
 ENTER : ENTER
 EXIT : MENU



3

TO SET THE CLOCK

Your TV/VCR will not work properly unless the time and date is set and kept running. Please note that you will not be able to set TIMER or ON/OFF TIMER RECORDING from the main menu until you have set the clock.

EXAMPLE: Setting the clock to 11:30, 26th October, 2002.

1 Press the MENU button. Press the ▲ or ▼ button to select the SYSTEM SETUP mode, then press the ENTER button.

■	TIMER REC. SET	[OFF]
■	AUTO REPEAT	
■	CHANNEL SETUP	
■	TV SETUP	
■	SYSTEM SETUP	

SELECT : ▲▼
ENTER : ENTER
EXIT : MENU

2 Press the ▲ or ▼ button to select the CLOCK SET mode, then press the ENTER button.

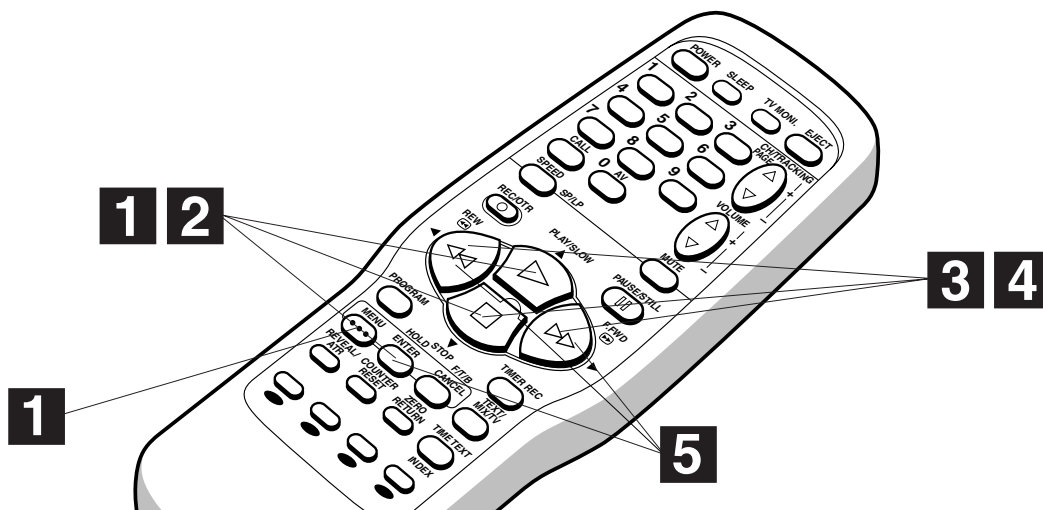
▼	CLOCK SET	
▼	LANGUAGE/SPRACHE/LANGUE	
▼	LINGUA/LINGUA	

SELECT : ▲▼
ENTER : ENTER
EXIT : MENU

3 Press the ◀ or ▶ button to select the current day, then press the ▼ button.

CLOCK SET	▼	SUN
DAY	▼	26
MONTH	▼	10
YEAR	▼	2000
TIME	▼	0:00

SELECT : ▲▼
SET : ◀▶ / 0-9
OK : ENTER EXIT : MENU



4 Set the month, year and hour in the same way as in step 3.

CLOCK SET		26 SAT
DAY		10
MONTH		2002
YEAR		11:30
TIME		

SELECT : ▲▼
SET : ◀▶ / 0-9
OK : ENTER EXIT : MENU

5 Press ◀ or ▶ button to select current minute, then press the ENTER button. The time and day will be displayed.

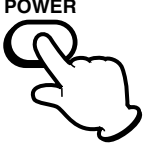
CLOCK SET		26 SAT
DAY		10
MONTH		2002
YEAR		11:30
TIME		

SELECT : ▲▼
SET : ◀▶ / 0-9
OK : ENTER EXIT : MENU

- NOTES:**
- During a power failure or disconnection of the mains lead the clock and all its programmed setting will remain in the memory for 30 minutes. If the power failure is longer than 30 minutes you will have to reset the present time.
 - If you want to correct the setting, press the ▲ button until the item you want to correct appear then press the ◀ or ▶ button to correct the desired setting.

TV OPERATION

1 Press the POWER button to turn on the TV/VCR.




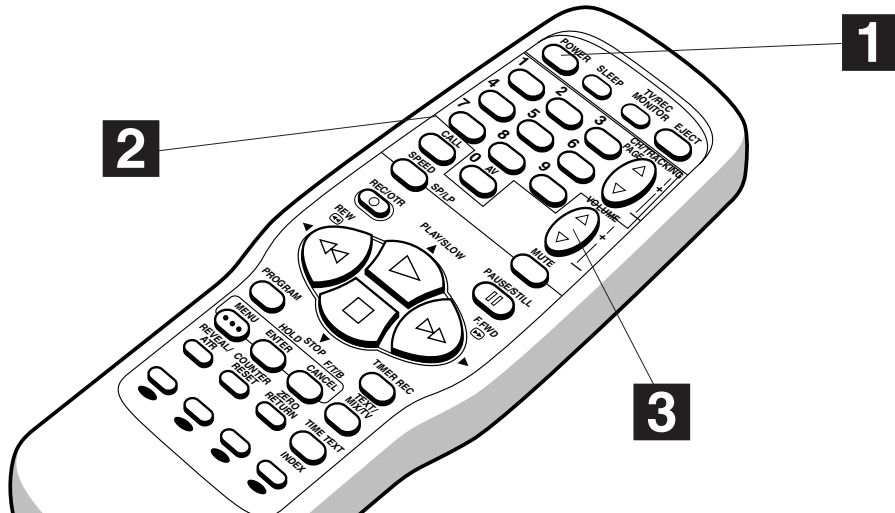
2 Select channels either with the Direct Channel Selection buttons or with the CH buttons.
To select with the Direct channel selection buttons:

- 1-9: Press one digit button for in between channel 1 - 9.
- 10-99: Press two digits buttons for in between channel 10 - 99.
- 100-110: Press three digits buttons for in between channel 100 - 110.

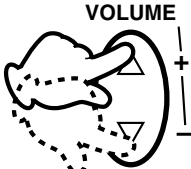
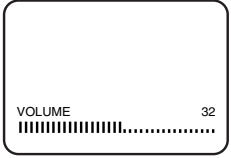
To select with the CH buttons:

- Press and release the CH + or – button. The channel changes one by one. Hold the button down to scan through unwanted channels.





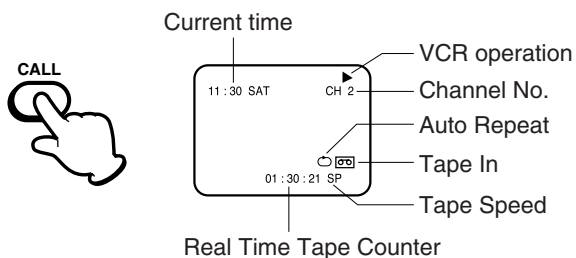
3 The VOLUME can be adjusted to a desired level by pressing the VOLUME + or – button. The VOLUME level is represented by a green bar on the screen.

NOTE: If the station being viewed stops broadcasting, the TV will shut itself off after 15 minutes.

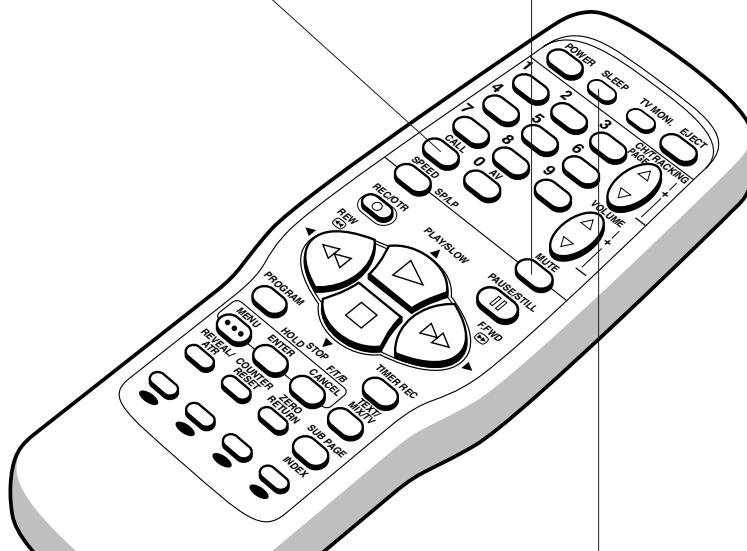
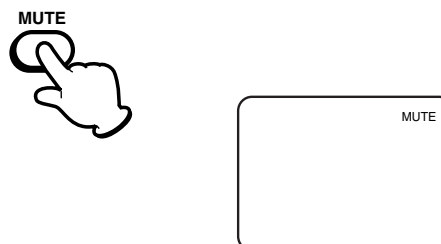
CALL

Press the CALL button. The current time, channel number, real time tape counter and tape operation will be indicated.
Press the CALL button again to cancel the call display.



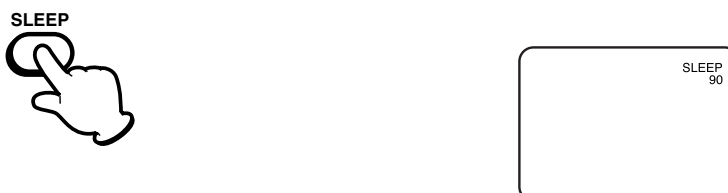
MUTE

To cut off the sound, press this button once. The TV/VCR will be silenced and the symbol "MUTE" will appear on the screen. The muting can be released by pressing the MUTE button again or the VOLUME +/- buttons.



SLEEP

To set the TV to turn off at a set time, press the SLEEP button on the remote control. The clock will count down 10 minutes each time the button is pressed in the order of 120, 110.....20, 10, 0. After the sleep time is programmed, the display will disappear and will reappear every 10 minutes. To confirm the sleep time setting, press the SLEEP button once and the remaining time will be momentarily displayed. To cancel the sleep time, press the SLEEP button repeatedly until the display turns to 0.



NOTE: If the SLEEP button is pressed when the TV/VCR is in the REC mode, the clock will count down to shut off the TV section at the set time, the recording will continue.



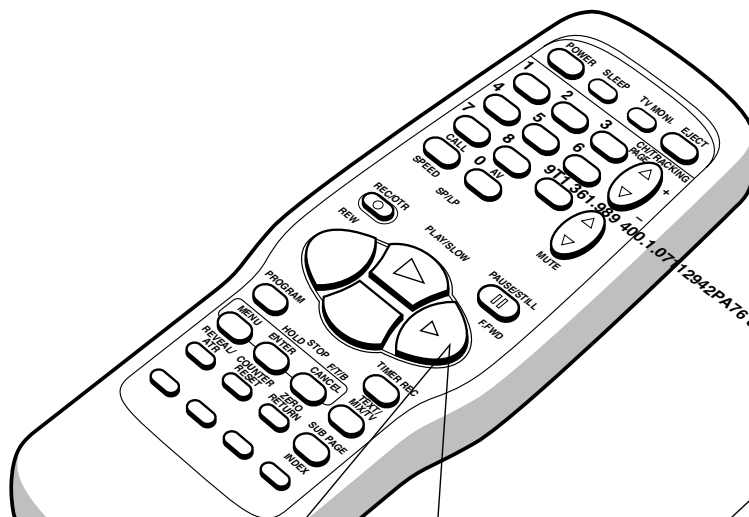
(CONTINUED)

The diagram illustrates a sequence of four steps to adjust TV settings, arranged in a circle connected by arrows:

- BRIGHTNESS**: Press the ENTER button until "BRIGHTNESS" appears on the screen, then press the ◀ or ▶ button to adjust the brightness. When the ▶ button is pressed, the darker portions of the picture become lighter.
- CONTRAST**: Press the ENTER button until "CONTRAST" appears on the screen, then press the ◀ or ▶ button to adjust the contrast. Pressing the ▶ button improves the contrast and enhances the colour. Picture looks sharper in the daytime by increasing the contrast level and sharper at night by lowering the contrast level.
- SHARPNESS**: Press the ENTER button until "SHARPNESS" appears on the screen, then press the ◀ or ▶ button to adjust the sharpness. The picture may be more pleasing when the SHARPNESS is set to a lower level.
- COLOUR**: Press the ENTER button until "COLOUR" appears on the screen, then press the ◀ or ▶ button to adjust the intensity of the colours. This should be set to where the colours appear normal in intensity and brilliance.

Each step shows a hand pressing the ENTER button, followed by a screen displaying the setting name and level (e.g., BRIGHTNESS 0), and navigation instructions (SET : ◀▶, EXIT : MENU, RESET : CANCEL, NEXT : ENTER).

- 16



12942PA76	89.988	1	281.53c	471.9	(TT 361.989	401	1.67698	43.5168	3735277877841.90
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TO SET THE OFF TIMER

This feature allows you to have the TV turn off automatically at a predetermined time. If you programme the OFF TIMER once, the TV will be automatically turned off at the same time daily.

EXAMPLE: Turning off the TV at 8:30.

1 Press the MENU button. Select the TV SETUP mode using the ▲ or ▼ button, then press the ENTER button.

■ TIMER REC SET
■ AUTO REPEAT [OFF]
■ CHANNEL SETUP
■ TV SETUP
■ SYSTEM SETUP

SELECT : ▲▼
ENTER : ENTER
EXIT : MENU

2 Press the ▲ or ▼ button to select the ON/OFF TIMER SET mode, then press the ENTER button.

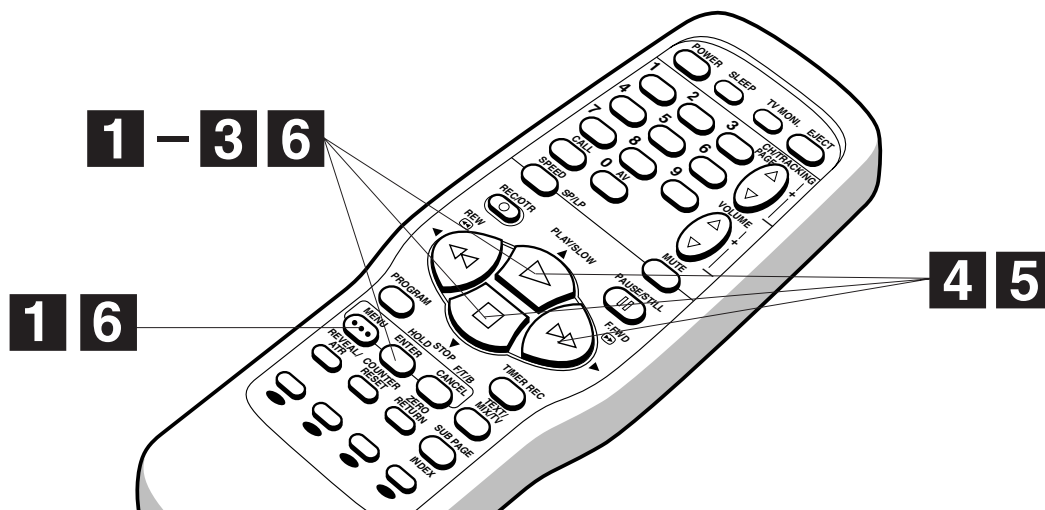
TV SETUP
■ ON/OFF TIMER SET
■ PICTURE

SELECT : ▲▼
ENTER : ENTER
EXIT : MENU

3 Press the ▲ or ▼ button to set the OFF TIMER mode, then press the ENTER button.

ON/OFF TIMER SET
■ ON TIMER
7:45 CH 3
■ OFF TIMER SET
MON-FRI
0:00
SET
CANCEL

SELECT : ▲▼
ENTER : ENTER
EXIT : MENU



4 Press the ▲ or ▼ button to set the desired hour, then press the ► button.

ON/OFF TIMER SET
■ ON TIMER
7:45 CH 3
■ OFF TIMER
MON-FRI
8:00
SET
CANCEL

SELECT : ▲▼
SET : ►
OK : ENTER
EXIT: MENU

5 Press the ▲ or ▼ button to set the desired minute, then press the ► button.

ON/OFF TIMER SET
■ ON TIMER
7:45 CH 3
■ OFF TIMER
MON-FRI
8:30
SET
CANCEL

SELECT : ▲▼
SET : ►
OK : ENTER
EXIT: MENU

6 Press the ▲ or ▼ button to select the SET mode, then press ENTER button. Press the MENU button to return to normal TV screen.

ON/OFF TIMER SET
■ ON TIMER
7:45 CH 3
■ OFF TIMER
MON-FRI
8:30
SET
CANCEL

SELECT : ▲▼
SET : ►
OK : ENTER
EXIT: MENU

NOTES: • If a station being viewed stops broadcasting, the TV will automatically shut itself off after 15 minutes.

• To cancel the OFF TIMER function:

Follow above step 1-5, then press the ▲ or ▼ button to select the CANCEL position. Press the MENU button to return to the TV.

• To confirm the ON/OFF TIMER:

Press the PROGRAM button twice to indicate the programmes on the screen.

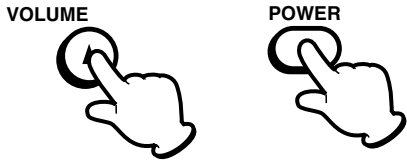
HOTEL LOCK (CHILD LOCK)

Hotel Lock feature enables you to limit the maximum volume and channel tuning. This special feature prevents someone from altering the VOLUME LIMIT or CHANNEL SETUP mode. These convenient functions are useful for hotel or hospital usage.

VOLUME LIMIT

You can adjust the maximum volume by setting VOLUME LIMIT mode.

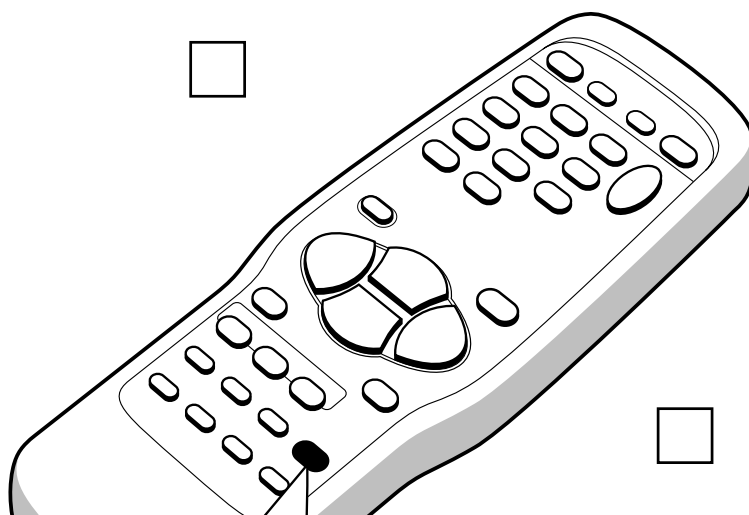
1



VOLUME

POWER

2 Press the ▲ or ▼ button to select the VOLUME LIMIT mode, then press the ENTER button.



TEXT/MIX/TVTIMER RECSTOPPLAY/SLOWF.FWDREWSUB PAGEINDEXP A

LOADING AND UNLOADING THE VIDEO CASSETTE TAPE

Use only video cassette tapes marked **VHS**.

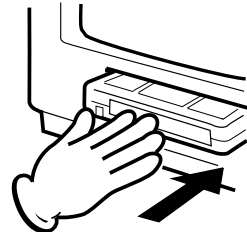
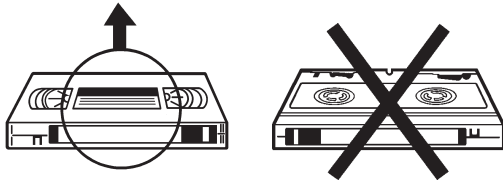
LOADING

Push the centre of the tape until it is automatically inserted.

AUTOMATIC POWER ON AND PLAY

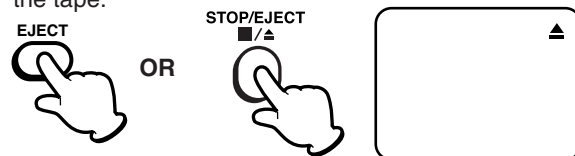
When loading a cassette tape without the erase prevention tab intact, playback will start immediately and the TV will turn on.

Insert the cassette with its labelled side facing you.
An inverted cassette cannot be inserted.



UNLOADING

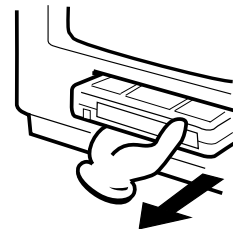
To unload a video cassette, press the EJECT button on the remote control, or press the STOP/EJECT button on the TV/VCR twice. The first press will stop the tape in any mode. The second press will eject the tape.



AUTOMATIC EJECT

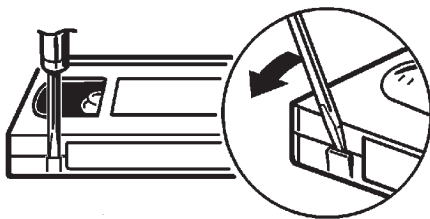
When the VCR is automatically rewinding the tape and reaches its end (AUTO REWIND), the tape will be ejected automatically. (See NOTE on page 26.)

Pull the cassette out.



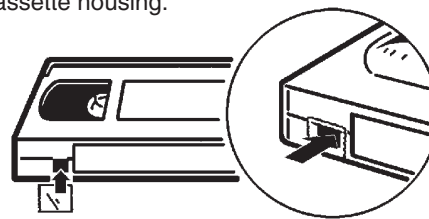
TO PREVENT ACCIDENTAL ERASURE

After recording, break off the erase prevention tab if you do not wish to record over the tape.



TO RECORD AGAIN

Cover the hole with vinyl tape.
Be careful the tape does not extend past the edges of the cassette housing.



TAPE SPEED AND MAXIMUM RECORDING/PLAYBACK TIME

TAPE SPEED	VIDEO CASSETTE TAPE					
	E-300	E-240	E-180	E-90	E-60	E-30
SP (Standard Play)	5 hours	4 hours	3 hours	1-1/2 hours	1 hour	30 minutes
LP (Long Play)	10 hours	8 hours	6 hours	3 hours	2 hours	1 hour

NOTES:

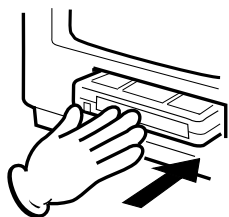
- Always eject the tape when not in use.
- The cassette can be ejected even if the POWER button is OFF.

PLAYBACK

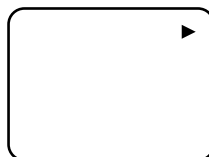
To play a pre-recorded cassette tape.

TO START PLAYBACK

Load a pre-recorded tape.
(When loading a cassette tape without the erase prevention tab, playback will start automatically.)

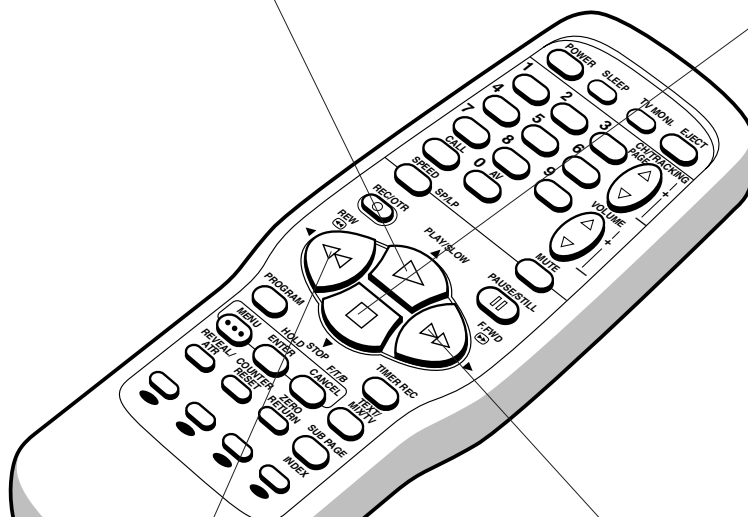
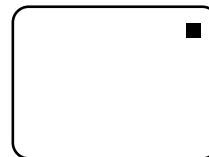


Press the PLAY/SLOW button.
Playback will start.
"▶" will appear on the screen.



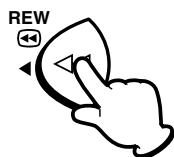
TO STOP PLAYBACK

Press the STOP button.
"■" will appear on the screen.

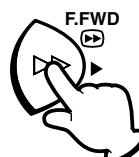


TO REWIND OR FORWARD THE TAPE RAPIDLY

Press the REW button when in the STOP mode.
"◀◀" will appear on the screen.



Press the F.FWD button when in the STOP mode.
"▶▶" will appear on the screen.



FORWARD/REVERSE PICTURE SEARCH

If you want to see the tape program during REW(F.FWD) mode, press down the REW(F.FWD) button.
The backward(forward) visual search picture will be seen on the screen. Release the button to return to the REW(FWD) mode.

SPECIAL PLAYBACK

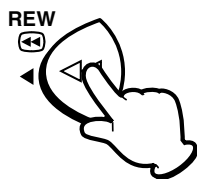
TO VISUALLY SEARCH FOR DESIRED POINTS

When either the F.FWD or REW button is pressed in the PLAYBACK mode, the speed search picture will appear. When pressed twice the search picture will increase in speed. Speed search times depend upon the speed used (SP or LP) during recording. To rewind or fast forward a tape, press the STOP button, and then press the REW or F.FWD button.

SPEED SEARCH TIMES

TAPE SPEED		PICTURE SEARCH SPEED	
		PRESS ONCE	PRESS TWICE
PAL	SP (Standard Play)	5 X	7 X
	LP (Long Play)	7 X	13 X
NTSC	SP (Standard Play)	3 X	5 X

Press the REW button once or twice in the PLAYBACK mode.



Press the F.FWD button once or twice in the PLAYBACK mode.



To return to playback, press the PLAY/SLOW button.

SLOW MOTION PLAYBACK

Press the PLAY/SLOW button in the PLAYBACK mode. Slow motion speed can be changed by REW or F.FWD button.



Press the PLAY/SLOW button again to resume normal playback.

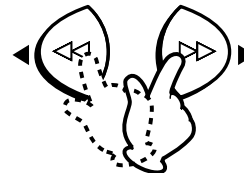
NOTE: SLOW TRACKING AND VERTICAL LOCK ADJUSTMENT

If noise bars appear in the picture during slow motion, press the TRACKING button to reduce the noise bars. If the still picture jitters excessively, press the TRACKING button to stabilize the still picture.

FRAME BY FRAME ADVANCE

Press the PAUSE/STILL button in the PLAYBACK, then press REW or F.FWD button one by one.

PAUSE/STILL



Press the PLAY/SLOW button again to resume normal playback.

STILL PICTURE

Press the PAUSE/STILL button in the PLAYBACK mode.

PAUSE/STILL



To continue the normal playback, press PLAY/SLOW button again.

NTSC TAPE PLAYBACK

Your TV/VCR can playback Video tapes recorded in the NTSC Colour System (TV system usually used in America and Japan).

NOTES: • The audio output is muted during Special Playback.

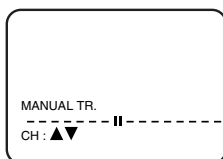
• A few noise bars will appear on the picture during Special Playback.

• To prevent damage to the tape, Special playback is automatically resumed to the PLAY mode after 5 minutes.

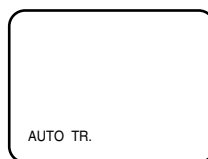
DIGITAL AUTO TRACKING ADJUSTMENTS

When a tape is played, the Digital Auto Tracking system automatically adjusts the tracking to obtain the best possible picture. If noise bars appear during playback, adjust the tracking manually as follows:

- Press the CH/TRACKING + or – button to obtain the best possible picture. To resume auto tracking, press the ATR button. "AUTO TR." will appear for 4 seconds on the screen.



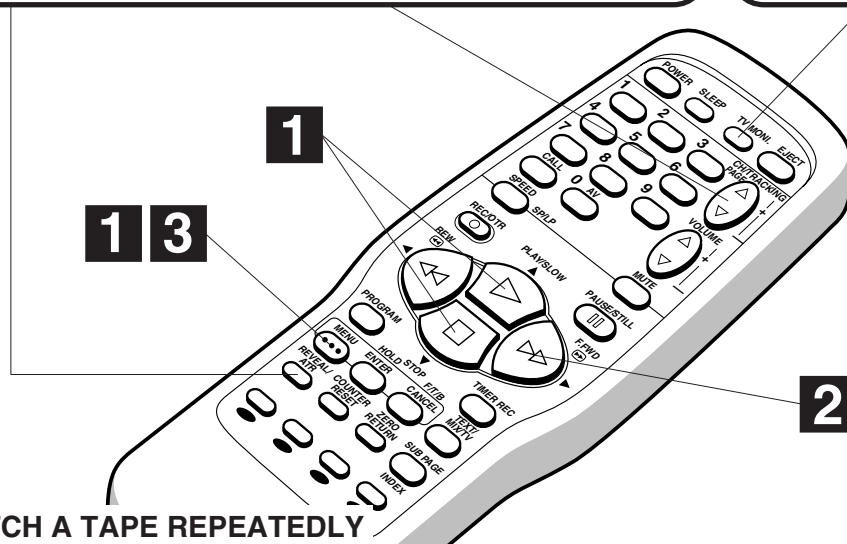
REVEAL/
ATR



TO MONITOR A TV PROGRAMME

Press the TV MONI. button while in the playback mode. The video tape will continue to play while the picture switches to the TV channel selected on the TV/VCR. Press the button again to return to playback picture.

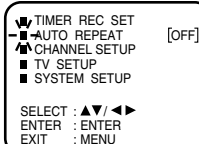
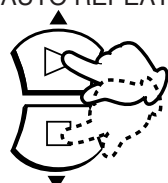
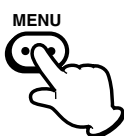
TV MONI.



TO WATCH A TAPE REPEATEDLY

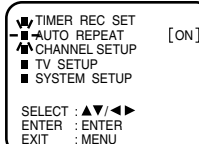
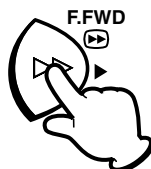
1

Press the MENU button. Press the ▲ or ▼ button to select the AUTO REPEAT mode.



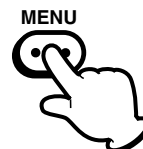
2

Press the ► button to select the ON position.



3

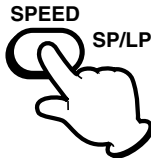
Press the MENU button to return to normal TV screen. If you press the PLAY button, the TV/VCR will repeat playing the video tape until the repeat mode is canceled.

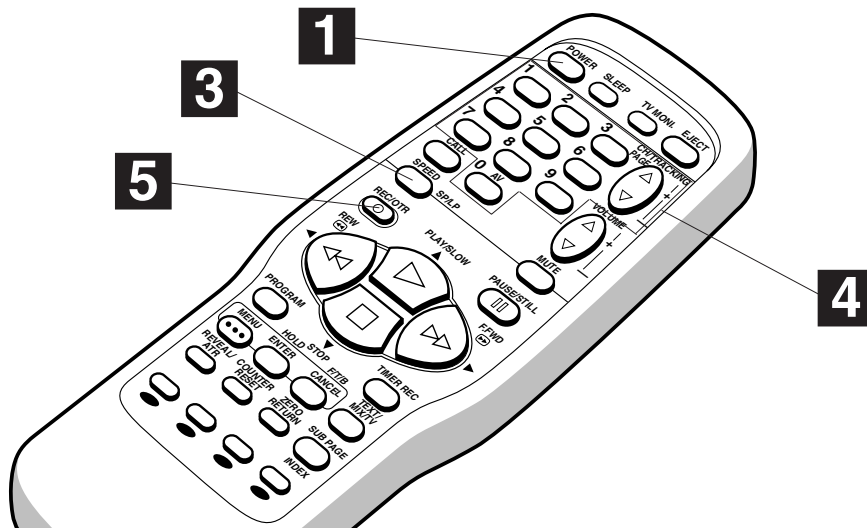


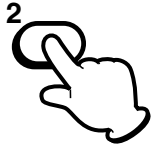
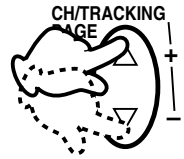


NOTE: To cancel repeat mode, follow above steps 1 and 2, then press the ► button to select the OFF position. Press the MENU button to return to the TV.

RECORDING A TV PROGRAMME

RECORDING AND VIEWING THE SAME TV PROGRAMME

<p>1 Press the POWER button to turn on the TV/VCR.</p> 	<p>2 Load a cassette tape with the erase prevention tab intact.</p> 	<p>3 Press the SPEED SP/LP button to select the desired tape speed (SP or LP). SP or LP will appear on the screen.</p> 
---	--	---



<p>4 Press the Direct channel selection buttons or CH/TRACKING + or – to select the channel to be recorded. (Example: Channel 2)</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin: 0 20px;">OR</div>  </div> <div style="border: 1px solid black; width: 100px; height: 50px; margin: 10px auto; text-align: center; line-height: 50px;">CH 2</div>	<p>5 Press the REC/OTR button. "●" and the channel number will appear on the screen and the REC/OTR indicator will light. Press the STOP button to stop recording.</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;"> <div style="text-align: center;">REC/OTR</div>  </div> </div> <div style="border: 1px solid black; width: 100px; height: 50px; margin: 10px auto; text-align: center; line-height: 50px;">CH 2 ● INDEX</div>
--	---

- NOTES:**
- If the power is switched off during recording, the TV section shuts off and the VCR section continues to record.
 - Press the STOP button to stop the recording and to turn off the TV/VCR.
 - If the erase prevention tab is removed, the tape will eject when the REC/OTR button is pressed.
 - The TV/VCR channel cannot be changed during recording.

RECORDING A TV PROGRAMME

(CONTINUED)

TO STOP RECORDING TEMPORARILY

Select the recording channel then press the PAUSE/STILL button to stop recording of unwanted material. "II" will appear on the screen and the REC/OTR indicator will blink on and off. Press again to continue the recording.

PAUSE/STILL



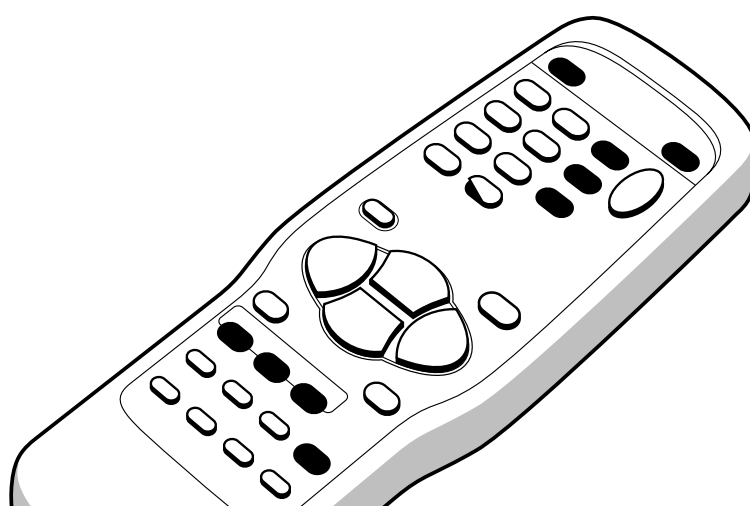
NOTE:

- To prevent damage to the video head and video tape the pause function will stop the VCR operation after about 5 minutes.



NOTES: AUTO REWIND FEATURE: This TV/VCR will automatically eject the tape on completion of rewinding (except during OTR and TIMER REC).

- If the tab has been removed, the tape will eject whenever REC/OTR is pressed.

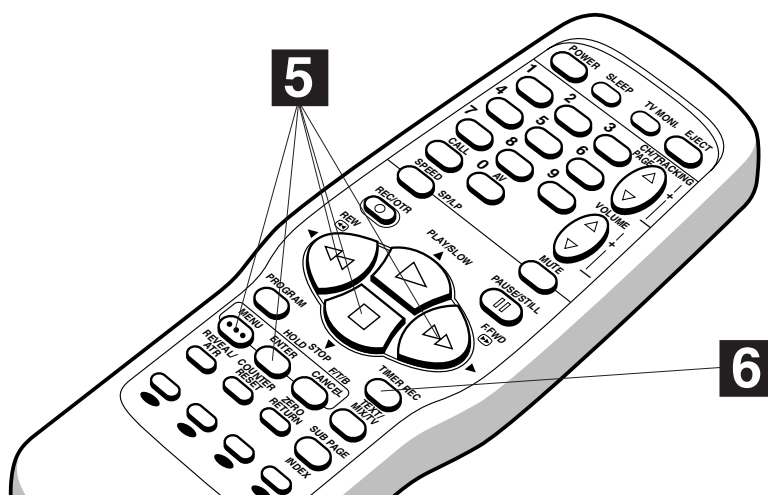
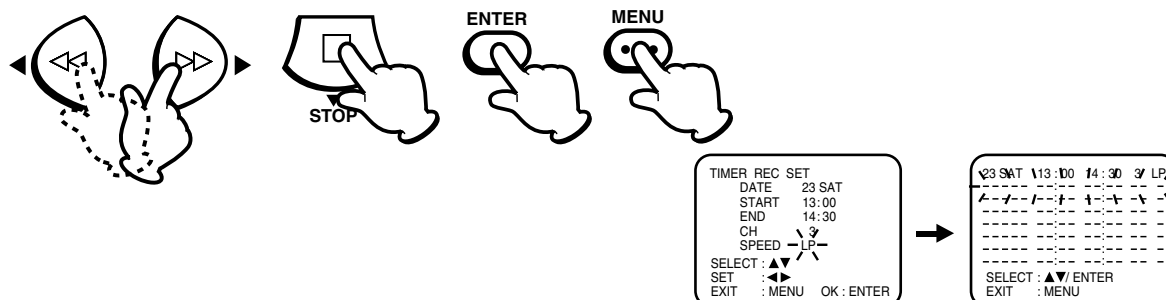


TIMER RECORDING

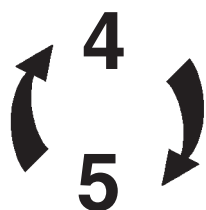
(CONTINUED)

5

Set the start time, end time, channel and tape speed as in step 4. When you have finished setting all your recordings, press ENTER. Press MENU to return to normal TV screen.



To set the timer for another programme, press the ▲ or ▼ button until the number of the second programme blinks, then press the ENTER button. Repeat steps 4 to 5 to set the second programme.



6

Press the TIMER REC button. The T.REC indicator will light. When the programmed time is reached, the recording starts automatically.

TIMER REC



To cancel timer recording, press the button again and T.REC indicator will go out.

- NOTES:**
- The VCR section cannot be used while the T.REC indicator is lit. If you want to use the VCR, press the TIMER REC button to deactivate the timer.
 - In the event of a power failure or disconnection of the power plug, all the programmed recording setting and time display will be erased. If this happened, reset the clock (see page 12.) and reprogram the timer recording.
 - If you made an error, press the ▲ button to the location you want corrected, then press the ◀ or ▶ button to correct the setting.

OTHER FUNCTIONS FOR TIMER RECORDING

TO SET DAILY/WEEKLY TIMER

When setting the date in step 4 on page 27, press the ◀ button repeatedly when the current day is displayed.

The setting changes as follows:

Example

The current day (Friday) → SUN-SAT (Sunday to Saturday)

One month later
minus one day

WKL-WED

(Weekly Wednesday)

MON-SAT (Monday to Saturday)

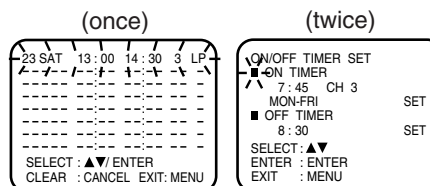
MON-FRI (Monday to Friday)

WKL-THU (Weekly Thursday)

TO CONFIRM THE SETTINGS

Press the PROGRAM button once. The TV screen displays the timer program list. Press the PROGRAM button again. The TV screen displays the ON/OFF timer setting.

PROGRAM

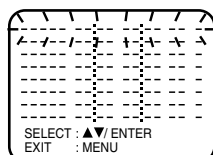


Press the PROGRAM button 3 times. The screen returns to the normal screen.

TO CANCEL A PROGRAM

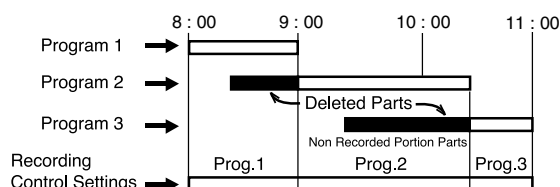
Press the ▲ or ▼ button to select the TIMER REC SET mode in the MENU, then press the ENTER button. Press the ▲ or ▼ button to select the unwanted program and press the CANCEL button.

CANCEL



IF THE PROGRAM OVERLAPS ANOTHER

NOTE: Do not overlap programs as portions of the conflicting programs will be lost. The first recording time has priority over the next recording time as shown in the diagram.

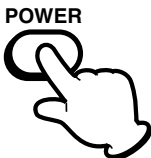
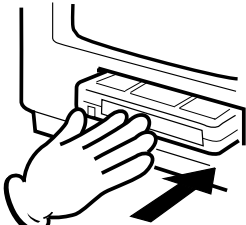
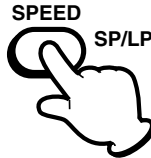


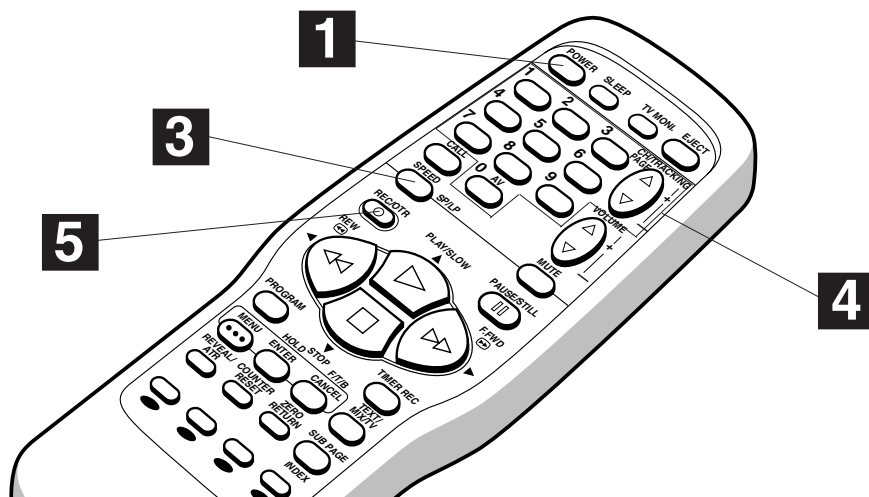
- NOTES:**
- The daily/weekly recording can be made continuously until the recording is canceled or the tape reaches the end.
 - During timer recording, the automatic rewinding mechanism does not function.
 - You can correct or cancel the programmed setting in program confirm mode.
 - If you press an invalid button during timer recording (such as PLAY, STOP, REC/OTR etc), "RECORDING IN PROGRESS" will appear on the TV screen for approx. 4 seconds.

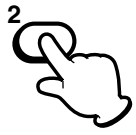


ONE-TOUCH TIMER RECORDING (OTR)

The one-touch timer recording feature provides a simple and convenient way to make a timed recording.

EXAMPLE: One-touch timer recording for 30 minutes.

<p>1 Press the POWER button to turn on the TV/VCR.</p> 	<p>2 Load a video cassette with the erase prevention tab intact.</p> 	<p>3 Press the SPEED SP/LP button to select the desired tape speed (SP or LP). SP or LP will appear on the screen.</p> 
---	---	---



<p>4 Press the Direct Channel Selection buttons or CH/TRACKING + or – button to select the channel to be recorded. (Example: Channel 2)</p>  <p>OR</p>  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">CH 2</div>	<p>5 Press the REC/OTR button to begin recording. Press the button again for 30 minutes recording. Each additional press of the REC/OTR button will increase recording time as shown below, up to a maximum of 5 hours. "OTR" will appear on the screen.</p>  <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> OTR 0:30 CH 2 INDEX </div>
--	--

NOTES: • Press the REC/OTR button to increase the time needed for recording. (See the chart below.)

Press	once	twice	3 times	4 times	5 times	6 times	7 times	8 times	9 times
Recording time	NORMAL REC	0:30	1:00	1:30	2:00	3:00	4:00	5:00	NORMAL REC

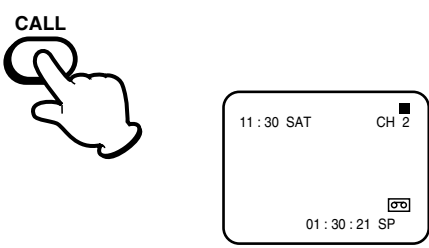
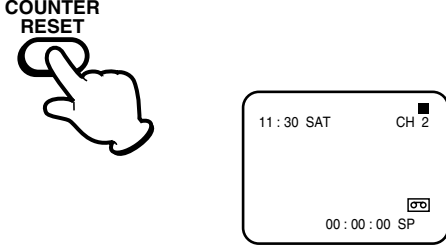
When the tape speed LP is selected, the recording time can be set up to 10 hours.

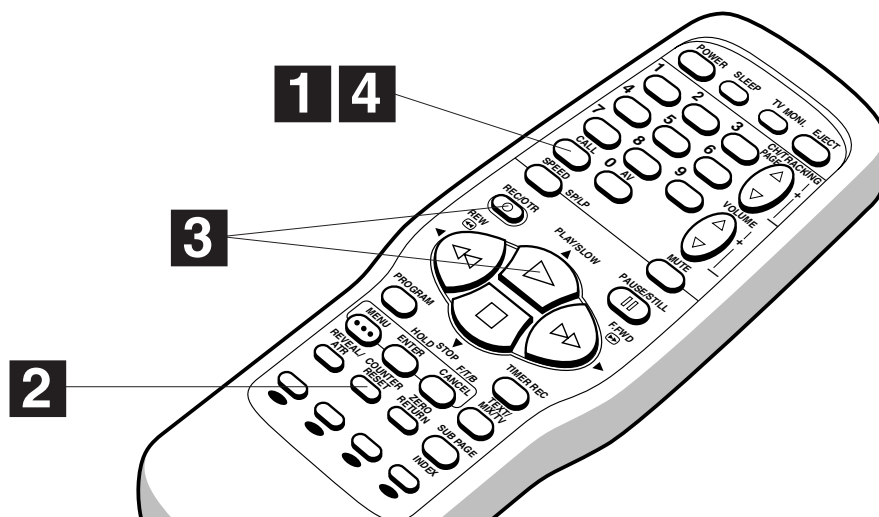
- To cancel OTR, press the STOP button.
- The TV/VCR channel cannot be changed during recording.

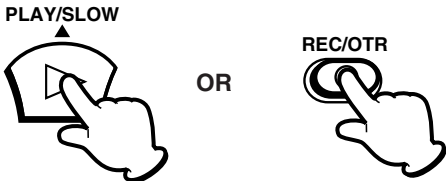

USING THE REAL TIME TAPE COUNTER

The On-Screen Real Time Tape Counter shows the tape running time in Hours, Minutes and Seconds. You can easily determine how long the tape has been running or how much time is left on the tape.

TO VIEW THE COUNTER DISPLAY

<p>1 Press the CALL button to display the Real Time Tape counter.</p> 	<p>2 Press the COUNTER RESET button to set the counter to "00:00:00".</p> 
--	---



<p>3 Press the PLAY/SLOW or REC/OTR button to start the tape, the counter will start running.</p> 	<p>4 To cancel the counter display, press the CALL button again.</p> 
--	---

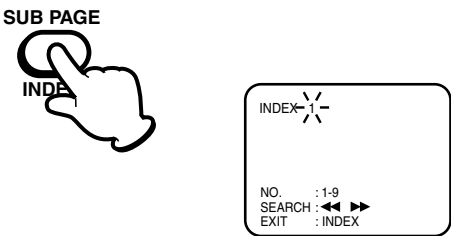
- NOTES:**
- If the tape has rewound passed the "00:00:00", a minus sign "-" will be displayed on the counter readings.
 - When you load a tape, the counter will change to "00:00:00".
 - The counter does not function on non-recorded (blank) sections of the tape. When you rewind, fast forward or play tapes through blank sections, the counter stops.

VIDEO INDEX SEARCH SYSTEM (INDEX)

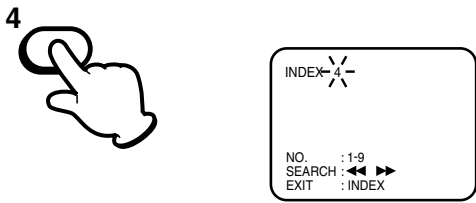
The VIDEO INDEX SEARCH SYSTEM (INDEX) enables you to locate the beginning of any recording made on the TV/VCR. The Index Search function automatically records an INDEX mark on the tape whenever a recording is initiated. This mark can easily be located by using the F.FWD and REW buttons.

SEARCHING FOR AN INDEX MARK

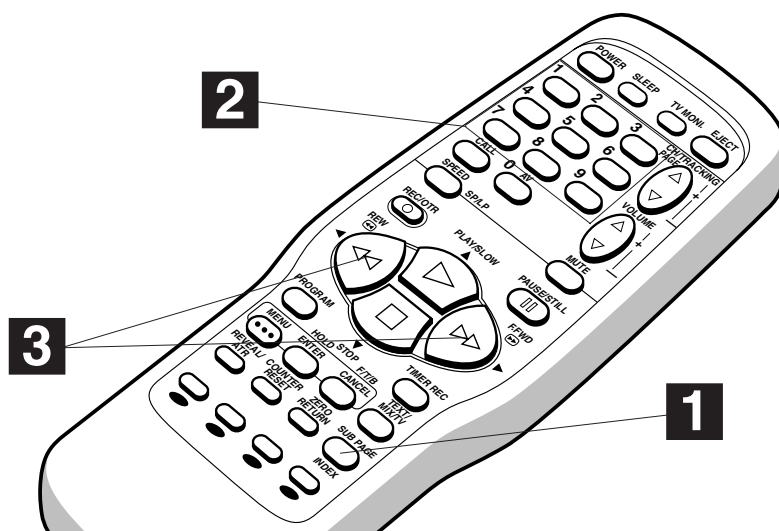
1 To search for an index mark, or skip over a number of index marks:
Press INDEX button during stop or playback.



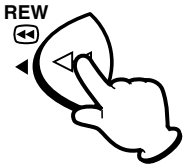
2 Skip the INDEX markings on the tape by using the Channel Number Keys (1 - 9).




EXAMPLE: When the tape has four separate recordings with the Index Mark, select 4 to go to the beginning of the 4th programme (4th index mark).

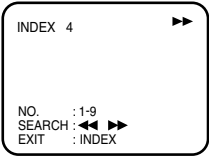


3 Press the F.FWD or REW button. The TV/VCR will skip over the selected number of INDEX marks and will start playback at the selected mark.



OR





- NOTES:**
- When you recorded an INDEX mark at the very beginning of the tape, the mark may not be found.
 - During INDEX search, the tape may stop and begin to play at a slightly different location.
 - INDEX may not function properly with old or worn out video tapes.

VIDEOTEXT (TELETEXT)

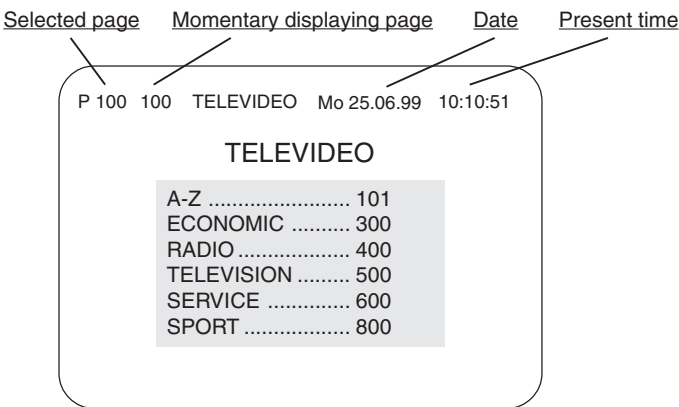
Most broadcasting stations offer the videotext in addition to their standard TV program. The videotext offers news, weather forecast, winning Lotto numbers, the program overview and other interesting news. The text is received page by page, as soon as you select the broadcasting station. A single page can be displayed on the screen. The pages are numbered and broadcasted one by one. Therefore you'll have to wait a certain time until the selected page is display on the screen. The page will be displayed as soon as it is broadcasted. Certain pages can be displayed more easily by the push of one of the **Four Colored Videotext** buttons. (Applicable to Fast TEXT only.)

Basic operation

- 1 Select the broadcasting station, whose text you want to read. In order to do so, select the station's channel with the remote handset.
- 2 Push **TEXT/MIX/TV** button.
The first push on **TEXT/MIX/TV** button the Videotext on.
The second push on **TEXT/MIX/TV** displays the TV program and the Videotext together (MIX).
The third push on **TEXT/MIX/TV** button the Videotext off and back to the TV program.

The first operation of the videotext normally opens the page 100 with the table of contents.

Example for a videotext page:



Select the desired videotext page from the broadcasting station's table of contents.

HOLD

Some pages hold more text that can be displayed in only one page. The broadcasting station separates these pages into sub-pages, which are broadcasted one by one automatically. To study one sub-page thoroughly push the **HOLD** button. The HOLD-symbol will be displayed.

The associated sub-pages will appear automatically, when you push **HOLD** second time.

To call a videotext page

Leaf through the pages with the **PAGE (▲ / ▼)** - button (forward or backward).

Note: you will not necessarily find an existing page. for every page number you enter..E.g. you have called the page no. 116, but it will not appear on your screen. This happens because the broad casting station momentarily does not offer this page. Available page numbers you will find inside the station's table of contents (toc). (most stations offer this toc on Videotextpage 100).

Enter the three-digit page number with the number buttons.

Example:

You want to display page 300.

Enter: 3 then 0 and 0.

To correct a faulty input, enter the wrong page number completely (all three digits), then enter the correct page number.

The **Four Colored** buttons (red, green, yellow and blue) correspond to the colored areas in the videotext's bottom line. These buttons enable quick access to the associated pages. (Applicable to fast text only)

Inside the videotext mode you cannot change to another broadcasting station..

To switch to another channel, leave the videotext mode by pushing the **TEXT/MIX/TV** button.

Push **SUB PAGE** button (0000).

The screen's left lower corner will display: - - - -

To call sub-page 2 enter: **0 0 0 2** .

Your input will be displayed in the left lower corner: **0002**.

It may take some time until the sub-page 2 will be broadcasted.

The sub-page will be displayed not before it's broadcast.

To leave the time text mode push SUB PAGE(0000) button again.

Within the time text mode no other pages than the sub-pages of the selected videotext page can be called. To call other videotext pages you must leave the time text mode.

To magnify the letters push **F/T/B** button.

You can magnify either the upper or the lower half of the screen.

Each push on F/T/B buttons between the screen's upper and lower half and the full screen.
(F/T/B = Full / Top / Bottom)

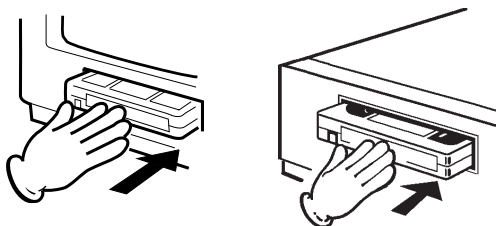
Pushing **REVEAL** will give you the hidden answers to the questions on a Quiz-page.

DUPLICATING A VIDEO TAPE

If you connect the TV/VCR to another VCR or VIDEO CAMERA, you can duplicate a previously recorded tape. Make all connections before turning on the power.

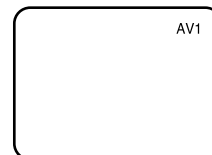
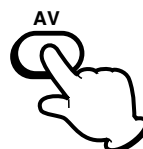
1

Load a blank cassette tape with the erase prevention tab intact into the recording VCR. Load a previously recorded tape into the playback VCR or VIDEO CAMERA.



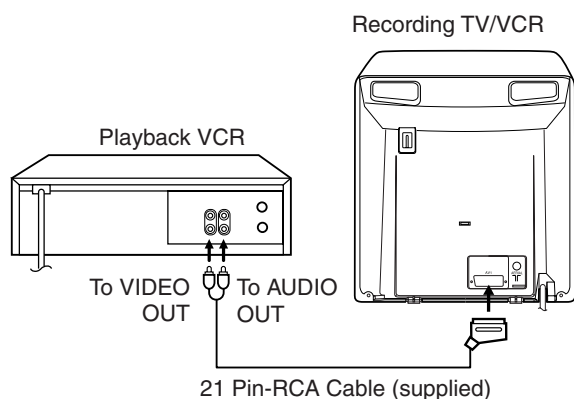
2

Press the AV button to select the AUDIO/VIDEO input position. The "AV1" will appear on the screen.



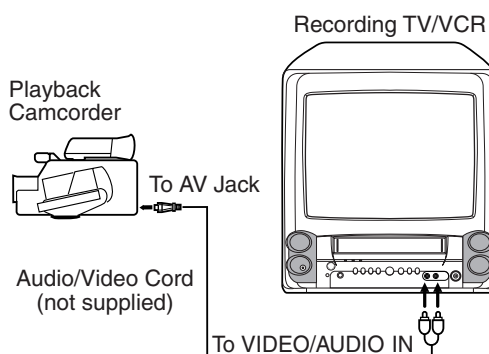
NOTE: You can also use the front AUDIO/VIDEO IN Jacks. Select "AV2" by pressing the AV button.

CONNECTION TO ANOTHER VCR



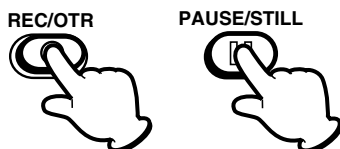
CONNECTION TO CAMCORDER

For duplicating a previously recorded tape from a camcorder, follow the camcorder manufacturer's instructions. A typical camcorder dubbing hookup is shown below.



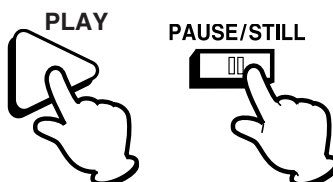
3

Press the REC/OTR button on the remote control of the TV/VCR, then press the PAUSE/STILL button.



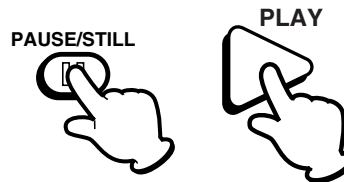
4

Press the PLAY Button on the playback VCR, then press the PAUSE/STILL button.



5

Release the recording pause and still playback to begin the duplicating process.



NOTES:

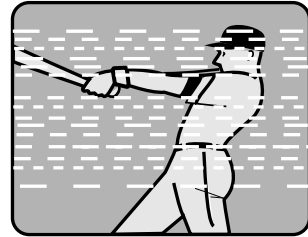
- It is recommended that the tape speed be set to the SP mode on the TV/VCR for best results.
- Unauthorized recording of copyrighted television programs, films, video cassettes and other materials may infringe the rights of copyright owners and be contrary to copyright laws.

RECEPTION DISTURBANCE

The most common types of television interference are as follows.

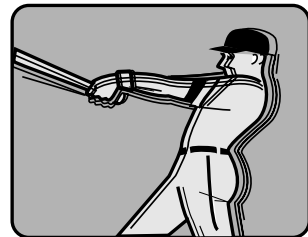
IGNITION

Black spots or horizontal streaks may appear, picture may flutter or drift. Usually caused by interference from car ignition systems, neon lamps, electrical drills and other electrical appliances.



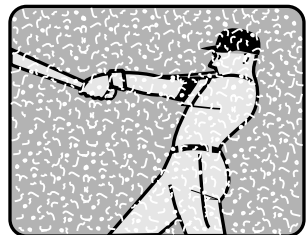
GHOSTS

Ghosts are caused by the television signal following two paths. One is the direct path and the other is reflected from tall buildings, hills or some other object. Changing the direction or position of the antenna may improve the reception.



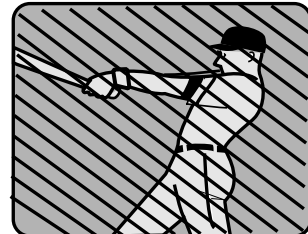
SNOW

If your receiver is located in the fringe area of a television station where the signal is weak, your picture may be marred by the appearance of small dots. When the signal is extremely weak, it may be necessary to install a special antenna to improve the picture.



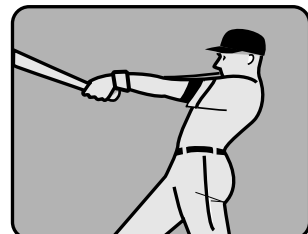
RADIO FREQUENCY INTERFERENCE

The interference produces moving ripples or diagonal streaks, and in some cases, causes loss of contrast in the picture.



PICTURE SIZE VARIATION

A slight picture size variation is normal when you adjust the CONTRAST or BRIGHTNESS control.



CARE AND MAINTENANCE

To prevent fire or shock hazard, disconnect the TV/VCR from the AC power source before cleaning. The finish on the cabinet may be cleaned with mild soap and a soft damp cloth. Take care when cleaning or wiping the plastic parts.

BEFORE REQUESTING SERVICE

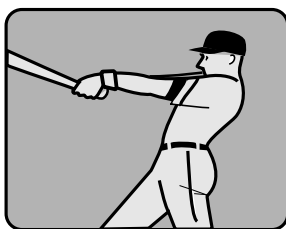
If your TV/VCR does not work properly check the following before calling a service engineer.

SYMPTOM	CAUSE	SOLUTION	PAGE
POWER			
No power.	The AC power cord is not connected.	Connect the AC power cord to AC outlet.	4
	Main power switch is OFF.	Set it to ON.	4
Recorder does not work even though STAND BY.	TIMER REC button is ON. (T.REC indicator is on.)	Set it to OFF. (T.REC indicator is off.)	28
	Moisture condensation on the video heads.	Wait two or three hours until it goes off.	2
TV BROADCAST RECEPTION			
No picture, no sound.	The AC power cord is disconnected.	Connect the AC power cord to AC outlet.	4
	Antenna connector is not connected or wires are broken.	Check Antenna connections or broken wires.	7
	POWER button is off.	Press the POWER button.	4
	Possibly station trouble.	Try another channel.	13
Sound OK, poor picture.	Possibly station trouble.	Try another channel.	13
	Antenna connector is not connected or wires are broken.	Check Antenna connections or broken wires.	7
	Possibly local interference.	Move the Antenna away from the source of interference.	37
Picture OK, poor sound.	Possibly station trouble.	Try another channel.	13
	Possibly local interference.	Move the Antenna away from the source of interference.	37
	Volume control set at minimum position.	Increase VOLUME control.	13
Poor reception.	Antenna connector is not connected or wires are broken.	Check Antenna connections or broken wires.	7
	Possibly station trouble.	Try another channel.	13
Poor colour or no colour.	Antenna connector is not connected or wires are broken.	Check Antenna connections or broken wires.	7
	Possibly station trouble.	Try another channel.	13
	Possibly local interference.	Move the Antenna away from the source of interference.	37
	Colour control is not adjusted.	Press the CANCEL button.	15
RECORDING			
Recording does not work.	Protection tab on the cassette tape has been removed.	Place an adhesive tape over the gap.	21
Timer recording does not work.	Main power switch is OFF.	Set main power to ON.	4
	Clock is not set.	Set the clock.	12
	START/END time is not correctly.	Set the START/END time correctly.	27/28
	TIMER REC button is OFF.	Set the TIMER REC button to ON.	28
	Present time is not set correctly.	Set the present time correctly.	12
	One-Touch Timer Recording (OTR) is ON.	After OTR recording, set the timer recording.	30
INDEX mark was not registered.	INDEX mark was recorded at the beginning of the tape.	Let the tape run for a couple of seconds before recording the first INDEX mark.	33

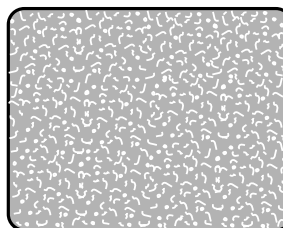
SYMPTOM	CAUSE	SOLUTION	PAGE
PLAYBACK			
Noise bars on screen.	Tracking is not adjusted.	Adjust the TRACKING control.	24
	Video heads are dirty.	Clean the video heads.	39
	The tape is worn or damaged.	Try another tape.	-
Can not locate INDEX mark.	The tape is worn or damaged.	Try another tape.	-
REMOTE CONTROL			
Remote control does not work.	It is not aimed at the remote sensor.	Aim it at the remote control sensor.	6
	Distance too far or there is too much light in the room.	Operate within 5 metres and reduce the light of the room.	6
	Obstacle in the path of beam.	Clear the path of the beam.	6
	Batteries are weak.	Replace batteries.	6
	Polarities of the batteries, + or -, are not inserted correctly.	Install batteries correctly.	6

VIDEO HEAD CLOGGING

The video heads record and playback picture and sound on the video tape. In the event that they become dirty you won't be able to do a perfect recording and the playback picture will be extremely snowy with good sound. If this happens have the TV/VCR checked by qualified service personnel.



Good Picture



Snowy Picture

VIDEO HEAD CLEANING

AUTO HEAD CLEANING cleans the video heads automatically when a cassette is inserted or ejected. This prevents dirt from accumulating onto the heads which can cause snowy picture.

When this happens (snowy picture) this signifies that the heads are either worn or needs cleaning, consult your local service centre for servicing.

NOTES:

- Video heads may eventually wear out and should be replaced when they fail to produce clear pictures.
- To help prevent video head cleaning, use only good quality VHS tapes. Discard worn tapes.

SPECIFICATIONS

TELEVISION	14VROT		20VROT			
	Picture Tube:		14" (34 cm "V") measured diagonally 90 degrees deflection		20" (48 cm "V") measured diagonally 90 degrees deflection	
	Tuner:		Electronic Tuner			
	Receiving Channels:		VHF: 0-S41 UHF: 21 - 69			
	Antenna Input:		VHF/ UHF 75 ohm unbalanced			
	Audio Output Power:		1.5 W (max)		2.5 W (max)	
	Speaker:		3.8 x 6.4 cm 8 ohm		7.6 cm 8 ohm	
	VCR					
	Operating Temperature:		5°C to 40°C			
	Television System:		CCIR 625 Lines 50 Fields PAL B/G			
Video Recording System:		VHS, 2 Rotary Heads Helical Scanning System Luminance: FM azimuth recording Color signal: converted sub-carrier phase shift recording				
Head:		Video: 4 Rotary Heads Audio/Control: 1 Stationary Head Erase: 1 Full Track Erase				
Audio Track:		1 Track				
Tape Format:		12.65mm high density tape				
F. FWD/REW Time at 25°C:		Approx. 1 minutes 48 seconds (With E-180 Cassette Tape)				
Tape Speed:		SP: 23.39 mm/s, LP: 11.69 mm/s (NTSC SP: 33.35 mm/s)				
Play Back/Recording Time:		SP: 300 min.with E-300 video cassette (PAL) LP: 600 min.with E-300 video cassette (PAL)				
Play Back Time:		210 min.with T-210 video cassette (NTSC)				
Speed Search:		SP 5 & 7 x Normal Speed LP 7 & 13 x Normal Speed				
Input Level:		Video: 1.0 Vp-p 75 ohm unbalanced Audio: 500 mV, 50k ohm unbalanced				
Output Level:		Video: 1.0 Vp-p 75 ohm unbalanced Audio: 500mV, 1k ohm unbalanced				
GENERAL						
Power Source:		AC 240V, 50Hz				
Power Consumption:		50 W		60 W		
Weight:		11.0 kg		19.0 kg		
Dimensions:		362(W) x 382(H) x 367(D) mm		489(W) x 484.5(H) x 465(D) mm		
REMOTE CONTROL UNIT						
Power Supply:		DC 3V (Two batteries, AAA/ R03/ UM-4)				
ACCESSORIES		Remote Control unit 2 Batteries (AAA/ R03/ UM-4) Telescopic Antenna with 300-75 ohm matching transformer 21 Pin-RCA Cable				

Weight and Dimensions are approximate. Because we continually strive to improve our products we may change specifications and designs without prior notice.

MEMO

ORION ELECTRIC CO., LTD. (JAPAN)

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02/09